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**REMARKS**

Though not conceding to the Examiner's position Applicant has amended certain claims to better clarify Applicant's present invention.

**Claim Rejection – 35 U.S.C § 112**

The Examiner rejected claims 1-10, 16-18, 25-27, 29, 31, and 33-38 under 35 U.S.C. § 112 second paragraph, as being vague and indefinite as to whether Applicant is claiming both apparatus claims and method claims.

In response, Applicant has amended independent claims 1, 25, and 29 to clarify Applicant's apparatus claims. Applicant respectfully requests, that in view of Applicant's clarification and amendments, that the Examiner remove the rejection(s).

**Claim Rejection – 35 U.S.C § 103****Office Action Item 6**

The Examiner rejected claims 1-6 under 35 U.S.C § 103(a) as being unpatentable over Barber, Jr. et al. (5,460,883) in view of Marc Broekaert's article "polyurea coatings" (Office Action Item 6).

Applicant submits that Barber is non-analogous art, that there is no suggestion or motivation to modify or combine Barber's abrasive filament with Broekaert's coating or any other cited references. Applicant further submits that even if Barber and Broekaert were combined that the result would be inoperable as Barber teaches urea coatings such as Broekaert's melts at too low of a temperature during service and cannot be used with Barber's abrasive filament. Furthermore, Applicant submits an abrasive filament of

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.75mm to 1.5mm in length, with a service life of 15 minutes used for grinding is non-analogous to a lifting sling.

Notwithstanding, the Examiner suggests that Barber discloses a rope or a sling comprising a plurality of cores (12)(figs. 1-4). Applicant disagrees and contends Barber teaches an abrasive filament (not a lifting sling) attached to a hub, the filament measuring about 0.75mm to about 1.5mm in length with an ultimate breaking strength of 2.0kg (col. 10, lines 63-37 through col. 11, lines 1-26). Barber's abrasive filament is designed to be attached to a hub for grinding or polishing and is not '*...a plurality of core fibers forming said lifting sling body...*' (independent claims 1, 25, and 29) as taught and claimed by Applicant.

The Examiner also suggests Barber teaches Applicant's a coating material comprising at least an isocyanate mixed with an amine forming polyurea (see col. 9, lines 2-11, col. 11, line 65, and col. 12, line 12), wherein the coating has a predetermine thickness. Applicant disagrees. Barber teaches that Applicant's coating cannot be used on Barber's abrasive filament because such urea coatings melt at too low of a temperature and as such is unsuitable for use (see col. 11, lines 53-64).

Furthermore, as the Examiner notes Barber teaches a predetermined thickness for the coating, which is different from Applicant's present invention. In this regard, Applicant teaches Applicant's coating is of variable thickness at varied locations on the lifting sling body. In this regard, Applicant teaches and claims '*...a plurality of additional layers applied to areas of said lifting sling body subject to high crush and shear forces ...*' (independent claims 1, 25, and 29). As such, Barber individually or in combination with cited references do not teach or suggest such a feature.

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Applicant also contends that neither Barber nor Broekaert individually or in combination with cited references teach Applicant's coating a lifting sling with 'an initial layer of said coating seals said plurality of core fibers from exposure to contaminants;... a plurality of additional layers applied to areas of said lifting sling body subject to high crush and shear forces. ....; and a final splatter layer of said coating applied along said lifting sling body, said final splatter layer creating a rugged textured non-slip grip exterior surface...' (independent claim 1, 25, and 29. Applicant regards these features as patentable, novel and non-obvious in view of the art disclosed by the cited references.

Applicant submits that in view of Applicant's clarification and amendments that claims 1-6 are allowable and requests that the Examiner removes the rejection(s) and allow the claims.

#### Office Action Item 7

The Examiner rejected claims 1-10, 16, 18, 29, 31, and 33-38 under 35 U.S.C § 103(a) as being unpatentable over St. Germain (5,651,572) in view of either Bassani (4,098,861) or Marc Broekaert's article "polyurea coatings" (Office Action Item 7).

The Examiner suggests that St. Germain teaches a lifting sling, admits that St. Germain does not teach a coating material as taught and claimed by Applicant, but suggests that Bassani (see col. 4, lines 9-35) and Broekaert teach Applicant's coating.

Applicant disagrees, Bassani does not teach Applicant's coating. Bassani only teaches polyurethane coatings not polyurea. Also Bassani is drawn to coating lengths of small diameter wire and as such Applicant contends is non-analogous art when compared to St. Germain's sling and Applicant's lifting sling. In addition, neither Bassani nor Broekaert individually or in combination with cited references teach coating a lifting sling

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in a manner as taught and claimed by Applicant including coating a lifting sling as clarified above with 'an initial layer of said coating; ... a plurality of additional layers of said coating. ....; and a final splatter layer of said coating...' (independent claim 1, 25, and 29).

Applicant submits that in view of Applicant's clarification and amendments that claims 1-10, 16, 18, 29, 31, and 33-38 are allowable and requests that the Examiner removes the rejection(s) and allow the claims.

#### Claims 3 and 4

Regarding claims 3 and 4, the Examiner suggests that Bassani teaches the temperature of the components ranges from 80 to about 200C degrees and the pressure ranges from 200psi to about 3500psi (Bassani col. 3, lines 48-52). The Examiner further suggests that it would have been obvious to provide a reasonable operating temperature, which is below a melting point and a desired tensile strength on the Bassani or Barber to provide a reliable and operable St. Germain sling'. Applicant does not see how this has anything to do with Applicant's present invention.

In this regard, Applicant contends that the Examiner's reference to Bassani col. 3, lines 48-52 has to deal with a wire coater (10) device and the manufacture of putting a non-polyurea coating on a wire, where the temperature and pressure the Examiner references are referred to as preheating components of a wire coater (10) shown in figure 1 and pressures of chemicals being fed into inlet ports (12, 14) in the wire coater (10). This references only how Bassani manufactures wire not operational properties of the wire. Applicant contends that this is in no way related to Applicant's post manufactured operational proprieties of Applicant's coating material after it has been applied to Applicant's lifting sling core materials, and in the context of operating the lifting sling in

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its useful service life, as taught and claimed by Applicant. Applicant regards these features as patentable, novel and non-obvious in view of the art disclosed by the cited references.

Applicant submits that in view of Applicant's clarification and amendments that claims 3-4 are allowable and requests that the Examiner removes the rejection(s) and allow the claims.

**Claims 7-10, 16, and 18**

Regarding claims 7-10, 16, and 18 the Examiner suggests that St. Germain teaches an optical strand which can be considered Applicant's safety core. Applicant disagrees. St. Germain teaches a round sling having a fiber optic strand (1) that emerges from the sling cover (5). A user can shine a flashlight into one end of the fiber optic strand (1) and determine if it can be seen at the other end of the fiber optic strand (1) (St. Germain col. 3 lines 54-57). If the fiber optic strand (1) breaks, such that light cannot be seen at the other end of the fiber optic strand (1), St. Germain infers that the sling is damaged. Unrelated to the fiber optic strand (1) St. Germain teaches use of a piece of yarn (3, 4) that can be pulled inside the sling cover (5) if the sling is over stretched. St. Germain also teaches that core strands (7, 8) form the body of the sling.

Applicant contends that St. Germain individually or in combination with cited references do not teach or suggest Applicant's 'a safety core bonded by said coating proximate to said plurality of core fibers, ends of said safety core are concealed within said coating...' (dependent claim 7 and 31) nor does St. Germain teach or suggest Applicant's '...an indicator secured proximate to said plurality of core fibers or an electronic system secured proximate to said plurality of core fibers...' (dependent claim

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16). Applicant regards these features as patentable, novel and non-obvious in view of the art disclosed by the cited references.

Applicant submits that in view of Applicant's clarification and amendments that claims 7-10, 16, and 18 are allowable and requests that the Examiner removes the rejection(s) and allow the claims.

**Claims 33-38**

The Examiner is silent on claims 33-38. In this regard, Applicant contends that these claims include features not taught or suggested by the art disclosed by the references cited and are features that Applicant regards as patentable, novel and non-obvious.

With regards to claim 33, 37, and 38 Applicant teaches and claims '*...a cover, said cover being fitted around said plurality of core fibers, said cover is coated with said coating...*' (dependent claim 33 and 38) and '*...secured into position with said coating...*' (dependent claim 37).

With regards to claim 34-36 Applicant teaches and claims '*... said lifting sling body is formed by full seaming said plurality of core fibers with said coating and multi-core said lifting sling body is formed by partial seaming said plurality of core fibers with said coating...*' (dependent claims 34-36).

Applicant submits that in view of Applicant's clarification and amendments that claims 1-10, 16, 18, 29, 31, and 33-38 are allowable and requests that the Examiner removes the rejection(s) and allow the claims.

**Office Action Item 8**

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The Examiner rejected claims 17 and 25-27 under 35 U.S.C § 103(a) as being unpatentable over St. Germain (5,651,572) in view of either Bassani (4,098,861) or Marc Broekaert's article "polyurea coatings", as applied to claims 1 and 16, and further in view of Smith et al. (6,443,660) (Office Action Item 8).

Applicant argument as to the rejection applied to claims 1 and 16 have been previous detailed in the sections above. With regards to Smith, the Examiner suggests that Smith teaches Applicant's electronic monitoring system and that is would have been obvious to connect Smith's electronic monitoring system to St. Germain's sling.

Applicant disagrees. Smith teaches an apparatus for manipulating an object (110) located proximate to an underwater floor. In this regard, Smith teaches a lifting frame (20), from which at least one sling (34) can be secured. Smith teaches using linear variable displacement transducers 'LVDT' (42) attached to the lifting frame (20) to monitor the bending of object (110) (see col. 7 lines 17-18). Smith does not teach or suggest monitoring anything related to a lifting sling, as taught and claimed by Applicant.

Smith also teaches that rods (42a) can be moveably mounted within the LVDT and contact object (110) (see col. 4 lines 39-51.) and that load cells (41) can be connected to pad eyes (27) which are secured to the lifting frame (20) (see col. 4 lines 14-18). Furthermore, Smith teaches how such load cells (41), and LVDT (42) can be connected to instrumentation that is located on a vessel or on a river bank (see col. 5 lines 34-67).

Applicant contends that Smith individually or in combination with St. Germain or other cited references do not teach or suggests Applicant's '...an electronic system secured by said coating proximate to said plurality of core fibers...' (independent claim 25), '...a cover, said cover being fitted around said plurality of core fibers, said cover is

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*coated with said coating...* (dependent claim 26), or *'...a cover, said cover being fitted around said plurality of core fibers, said cover is coated and secured into position with said coating...* (dependent claim 27) features which Applicant regards as patentable, novel and non-obvious in view of the art disclosed by the cited references.

Applicant submits that in view of Applicant's clarification and amendments that claims 17, 25-27 are allowable and requests that the Examiner removes the rejection(s) and allows the claims.

#### **Office Action Item 9**

The Examiner suggests in the 'Response to Arguments' section that Applicant argues that prior art does not teach *'...increasing said coating thickness and shear strength preventing said plurality of core fibers and said coating damage during use of said lifting sling...'*. The Examiner also suggests that Broekaert's article could be made of one layer after another with Barber's filaments or St. Germain's slings to increase there high crush and shear forces. Applicant disagrees. Applicant contends that the coating of an initial layer seals and protects the core fibers from contaminates, that the additional layers allow the operational properties to be designed by controlling the coating thickness and location on the lifting sling body, and that a final splatter layer creates a ruggedized gripable surface to prevent slippage during usage. Applicant contends that these features are not taught or suggested in the art disclosed by the cited references and Applicant submits that these feature detailed further below are features that Applicant regards as patentable, novel and non-obvious in view of the art disclosed by the references cited.

With respect to Applicant's initial layer feature, Applicant has clarified in independent claims 1, 25, and 29 that *'an initial layer of said coating seals said plurality of core fibers from exposure to contaminates'*. The references cited do not teach or



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suggest using the coating to seal the core fibers from contaminants such as dirt, oils, etc.. Applicant submits, this feature improves the operational condition, and or suitability for use of the lifting sling by preventing damage to the core fibers (see throughout Applicant's specification and in particular page 8, lines 15-23 and starting on page 18, line 21 through page 19, line 22). This is a feature not taught or suggested in the art disclosed by the cited references and is a feature which Applicant regards as patentable, novel and non-obvious.

With respect to Applicant's additional layers at varied locations, the properties of Applicant's coating including rapid dry time, the ability to control precise placement on the lifting sling body which allows the coating thickness in certain areas of the lifting sling to be controlled, and the ability to determine the coating physical properties such as shear strength, hardness, elongation, etc. by controlling thickness of the coating coupled with the fact that the coating is superior in shear strength, tenacious bonding to the core fibers, and elasticity effectuates the ability to use Applicant's coating on a lifting sling. It is these superior coating properties and the ability to control them by '*...a plurality of additional layers of said coating are applied in areas of said lifting sling body subject to high crush and shear forces...*' (independent claim 1, 25, and 29) that make Applicant's present invention far superior in performance to other lifting slings on the market. (see throughout Applicant's specification and in particular starting on page 18, line 21 through page 19, line 22 and starting on page 23, line 19 through page 24, line 20). This is a feature not taught or suggested in the art disclosed by the cited references and is a feature which Applicant regards as patentable, novel and non-obvious.

With respect to Applicant's final splatter layer, Applicant teaches and claims '*a final splatter layer of said coating applied along said lifting sling body, said final splatter layer creating a rugged textured non-slip grip exterior surface*'. The prior art does not teach or suggest this feature. This feature make Applicant's lifting sling more gripable

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and reduces the chances for slippage during heavy load lifting. (see Applicant's specification and in particular page 30, lines 1-8 and starting on page 32, line 5 through page 33, line 2).

In view of Applicant's amendments and clarifications, Applicant contends that independent claims 1, 25, and 29 are patentable, novel and non-obvious in view of the art disclosed by the references cited. Applicant requests that the Examiner removes the rejection(s) and allow independent claim 1, 25 and 29 and the claims that depend there from.

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**CONCLUSION**

Applicant respectfully requests reconsideration and further examination of all claims 1-10, 16-18, 25-27, 29, 31 and 33-38 listed above. Applicant submits that in view of the remarks set forth above, this application is in condition for allowance and requests early notification to this effect.

Respectfully Submitted,



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